CHEMICAL HERITAGE FOUNDATION

GAIL P. JARVIK

The Pew Scholars Program in the Biomedical Sciences

Transcript of an Interview
Conducted by

William Van Benschoten

at

University of Washington
Seattle, Washington

on

22, 23, and 24 May 2002

ACKNOWLEDGEMENT

This oral history is part of a series supported by a grant from the Pew Charitable Trusts based on the Pew Scholars Program in the Biomedical Sciences. This collection is an important resource for the history of biomedicine, recording the life and careers of young, distinguished biomedical scientists and of Pew Biomedical Scholar Advisory Committee members.

This oral history was completed under the auspices of the Oral History Project, University of California, Los Angeles (Copyright © 2003, The Regents of the University of California) and is made possible through the generosity of

From the original collection at the Center for Oral History Research, UCLA Library, UCLA.

The following oral history, originally processed at the UCLA Center for Oral History Research, has been reformatted by the Chemical Heritage Foundation. The process involved reformatting the front matter, adding a new abstract, replacing the table of contents, and replacing the index. The paragraph spacing and font of the body of the transcript were altered to conform to the standards of the Oral History Program at the Chemical Heritage Foundation. The text of the oral history remains unaltered; any inadvertent spelling or factual errors in the original manuscript have not been modified. The reformatted version and digital copies of the interview recordings are housed at the Othmer Library, Chemical Heritage Foundation. The original version and research materials remain at the Darling Library, University of California, Los Angeles and at the Bancroft Library, University of California, Berkeley.

REFORMATTING:

Kim Phan, Program Intern, Oral History, Chemical Heritage Foundation. B.A. expected 2011, Anthropology, Cornell University.

David J. Caruso, Program Manager, Oral History, Chemical Heritage Foundation. B.A., History of Science, Medicine, and Technology, Johns Hopkins University; PhD., Science and Technology Studies, Cornell University.

UNIVERSITY OF CALIFORNIA, LOS ANGELES

Oral History Interview Agreement No. R081902D

This Interview Agreement is made and entered into this 19 day of August, 2002 by and between THE REGENTS OF THE UNIVERSITY OF CALIFORNIA, a California corporation, on behalf of the Oral History Program at the UCLA campus, hereinafter called "University," and GAIL P. JARVIK, having an address at Department of Medicine, Division of Medical Genetics, University of Washington, Box 357720, Seattle, Washington 98195-7720, hereinafter called "Interviewee."

Interviewee agrees to participate in a series of University-conducted tape-recorded interviews, commencing on or about May 22, 2002, and tentatively entitled "Interview with Gail P. Jarvik. This Agreement relates to any and all materials originating from the interviews, namely the tape recordings of the interviews and a written manuscript prepared from the tapes, hereinafter collectively called "the Work."

In consideration of the mutual covenants, conditions, and terms set forth below, the parties hereto hereby agree as follows:

1. Interviewee irrevocably assigns to University all her copyright, title and interest in and to the Work. This assignment applies to University, its successors, and assigns, for and during the existence of the copyright and all renewals and extensions thereof.

2. By virtue of this assignment, University will have the right to use the Work for any research, educational, or other purpose, including electronic reproduction, that University may deem appropriate.

3. Interviewee acknowledges that she will receive no remuneration or compensation for her participation in the interviews or for the rights assigned hereunder.

4. Interviewee will receive from University, free of charge, one bound copy of the typewritten manuscript of the interviews.

5. To insure against substantive error or misquotation, Interviewee will have the right to review the manuscript before it is put into final form. University therefore will send Interviewee a copy of the edited transcript for review and comment. Interviewee will return transcript and comments to University within 30 days of receipt of the transcript. In the event that Interviewee does not respond within 30 days, University will assume that Interviewee has given full approval of the transcript.

6. All notices and other official correspondence concerning this Agreement will be sent to the following:

If to University:

Oral History Program
University of California, Los Angeles
Box 951575
Los Angeles, California 90095-1575

Attention: Janice L. Reiff

If to Interviewee:

Gail P. Jarvik
Department of Medicine
Division of Medical Genetics
University of Washington
Box 357720
Seattle, WA 98195-7720

University and Interviewee have executed this Agreement on the date first written above.

INTERVIEWEE	THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
X _____ (Signature)	Janice L. Reiff (Signature)
Gail P. Jarvik (Typed Name)	Janice L. Reiff (Typed Name)
Department of Medicine (Address)	Interim Director, Oral History Program (Title)
Division of Medical Genetics	
University of Washington	
Box 357720	
Seattle, WA 98195-7720	
X Date 5/22/02	Date 19 Aug 2002

Pew Scholars in the Biomedical Sciences

Chemical Heritage Foundation Internet Posting Release Form

I, Gail P. Jarvik, M.D., Ph.D., hereby request that my wishes be followed as per the checked selection below with regards to posting portions of the digital copy of the audio-taped interview of me and the related written transcript on the internet for non-commercial, educational use only.

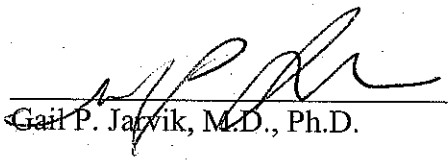
Please check one:

a. __✓__ **No restrictions for Internet Posting.**
NOTE: Users citing this interview for purposes of publication are obliged under the terms of the Chemical Heritage Foundation Oral History Program to obtain permission from Chemical Heritage Foundation, Philadelphia, Pennsylvania.

b. _____ **Semi-restricted Internet Postings** (My review of the material intended to post is required.)

c. _____ **Restricted access.** (Do not post.)

This constitutes my entire and complete understanding.



Gail P. Jarvik, M.D., Ph.D.

2/13/08

Date

Chemical Heritage Foundation
Oral History Program
315 Chestnut Street
Philadelphia, Pennsylvania 19106

The Chemical Heritage Foundation (CHF) serves the community of the chemical and molecular sciences, and the wider public, by treasuring the past, educating the present, and inspiring the future. CHF maintains a world-class collection of materials that document the history and heritage of the chemical and molecular sciences, technologies, and industries; encourages research in CHF collections; and carries out a program of outreach and interpretation in order to advance an understanding of the role of the chemical and molecular sciences, technologies, and industries in shaping society.

GAIL P. JARVIK

1959 Born in Evanston, Illinois, on 8 February

Education

1980 B.S. with Honors, Zoology, University of Iowa
1983 M.S., Human Genetics, University of Michigan
1986 Ph.D., Human Genetics, University of Michigan
1987 M.D., Medical Scientist Training Program, University of Iowa

Professional Experience

University of Washington
1991-1992 Acting Instructor, General Medicine
1991-1994 Senior Medical Genetics Fellow
1994 Acting Instructor, Medicine
1995-2000 Assistant Professor, Department of Medicine, Division of Medical Genetics
2000-present Associate Professor, Department of Medicine Division of Medical Genetics

University of Pennsylvania
1989-1991 Physician, Student Health Service

Hospital of the University of Pennsylvania
1989-1991 Adjunct Faculty, Walk-In Clinic
1990-1991 Attending Physician and Instructor, General Internal Medicine

Philadelphia Veterans Administration Hospital Medical Center
1990-1991 Educational Consultant to the Director

Fred Hutchinson Cancer Research Center
1995-present Affiliate Assistant Member

Medical Genetics Clinic
2000-2001 Acting Head

Honors

1982-1986 NIH Predoctoral Training Grant Award

1992	Individual National Research Service Award (declined)
1992-1995	Howard Hughes Medical Institute Postdoctoral Fellowship
1995	American Heart Association Clinician Scientist Award
1996	Diabetes and Endocrinology Research Award
1996	Howard Hughes Medical Institute Pilot Research Award
1997	Royalty Research Grant
1997-2001	Pew Scholars Program in the Biomedical Sciences Grant
1998	Veterans Administration Hospital Epidemiology Research and Information Project Award
1998	National Institute of Health Award (PI): RO1 1HL6199
1998	Poster Award, International Genetic Epidemiology Society Meeting
1999	National Institute of Health Award (PI): PO1 HL30086 (Project 1)
1999	NIH Awards (PI): RO1 1HL6199-01, 1998; PO1HL30086 (Project 1)
2001	American Medical Association Physician's Recognition Award (Internal Medicine)
2002	National Institute of Health Award (PI): HL67406
2002	National Academy of Sciences "Frontiers of Science" Meeting, Chair, Organizing Committee
2002	Roger R. Williams Award for Excellence in Genetic Research, American Heart Association

Selected Publications

Pairitz G, Erickson R, Schultz J, and Sing C. Failure to detect association of isolated cleft palate with HLA antigens. J Immunogenetics 12:259-262, 1985.

Erickson R, Pairitz G, Karolyi J, Kapur J, Odenheimer D, Schultz J, and Sing C. HLA-B18 is associated with decreased levels of isoproterenol-stimulated camp in lymphocytes. Am J Hum Genet 37:124-132, 1985.

Erickson R, Heidel L, Kapur J, Karolyi J, Odenheimer D, Pairitz G, Schultz J, Sing C. HLA antigens, phytohemagglutinin stimulation and corticosteroid response. Am J Hum Gen 37:761-770, 1985

Pairitz GL, Davignon J, Mailloux H, and Sing CF. Sources of inter-individual variation in the quantitative levels of apolipoprotein B in pedigrees ascertained through a lipid clinic. Am J Hum Genet 43:311-321, 1988.

Cortner J, Coates P, Liacouras C, Jarvik G. Familial combined hyperlipidemia in children: Clinical expression, metabolic defects, and management. J Pediatrics 123(2): 177-184, 1993.

Jarvik GP, Beaty T, Coates P, Gallagher P, and Cortner J. Genotype at a major locus with large effects on apolipoprotein B levels predicts familial combined hyperlipidemia. Genetic Epidemiology 10:257-270, 1993.

Austin M, Jarvik G, Hokanson J, and Edwards K. Complex segregation analysis of low density lipoprotein peak particle diameter. Genetic Epidemiology 10:599-604, 1993.

Jarvik G, Wijsman E, Little R, Albers J, Motulsky A, and Brunzell J. Host and environmental

effects on plasma apolipoprotein B levels. Int J of Clinical and Laboratory Research 23:215- 220, 1993.

Jarvik GP, Patton MA, Homfray T, and Evans JP. Non-Mendelian transmission in a human developmental disorder: Split-hand/split-foot. Am J Hum Genet 55(4):710-713, 1994.

Jarvik G, Austin M, Fabsitz R, Auwerx J, Reed T, Christian J, and Deeb, S. Genetic influences on age-related change in total cholesterol, low density lipoprotein-cholesterol and triglyceride levels: Longitudinal apoE genotype effects. Genetic Epidemiology 1 1(4):375-384, 1994.

Reed T, Carmelli D, Swan GE, Breitner JCS, Welsh KA, Jarvik GP, Deeb S, Auwerx J. Lower cognitive performance in normal older male twins carrying the apolipoprotein e epsilon-4 allele. Archives of Neurology 51:1189-92, 1994.

Jarvik G, Brunzell J, Austin M, Krauss R, Motulsky A, Wijsman E. Genetic predictors of familial combined hyperlipidemia in four large pedigrees: influence of apolipoprotein B major locus predicted genotype and low density lipoprotein phenotype. Arteriosclerosis and Thrombosis, 14:1687-1694, 1994.

Jarvik GP, Wijsman EM, Kukull WA, Schellenberg GD, Yu C, and Larson EB. Interactions of apolipoprotein E genotype, total cholesterol level, age, and sex in the prediction of Alzheimer disease in a case-control study. Neurology, 45:1092-1096, 1995.

Edwards K, Austin M, Jarvik G. Evidence for genetic influences on smoking in adult women twins. Clinical Genetics, 47:236-244, 1995.

Goddard KA, Jarvik GP, Graham J, McNeney B, Hsu L, Siegmund K, Grosser S, Olson J, and Wijsman E. Analysis of quantitative risk factors for a common oligogenic disease. Genetic Epidemiology 12(6):759-764, 1995.

Jarvik GP, Larson EB, Goddard K, Kukull WA, Schellenberg GD, and Wijsman EM. Influence of apolipoprotein E genotype on the transmission of Alzheimer disease in a community-based sample. Am J Hum Genet 58:191-200, 1996.

Clement SJ, Leppig KA, Jarvik GP, Kapur RP, Norwood TH. Trisomy 10p: Report of an unusual mechanism of formation and critical evaluation of the clinical phenotype. American Journal of Medical Genetics 65(3):197-204, 1996.

Horwitz M, Goode EL, Jarvik, GP. Anticipation in Familial Leukemia. Am J Hum Genet. 59:990-998, 1996. See Invited Editorial: McInnis M., "Anticipation: An Old Idea in New Genes," *Am J Hum Genet,* 59:973-979, 1996. See Citation: Lewin D.I, "Is it Anticipation? Leukemia Worsens in Each Generation," *Journal of NIH Research,* 9:41-42, 1997.

Jarvik GP, Goode EL, Austin MA, Auwerx J, Deeb S, Schellenberg GD, and Reed T. Evidence that the apolipoprotein E genotype effects on lipid levels can change with age in males: a longitudinal analysis. Am J Hum Genet 61(1): 171-181, 1997.

Jarvik GP. Genetic predictors of common disease: Apolipoprotein E genotype as a paradigm. Annals of Epidemiology 7(5):357-62, 1997.

McIndoe RA*, Stanford JL*, Gibbs M*, Jarvik GP*, Brandzel S, Neal CL, Li S, Gammack J, Gay AA, Goode EL, Hood L, Ostrander EA. Evidence against a frequent prostate cancer susceptibility gene at chromosome 1q24-25 in 49 families. Am J Hum Genet 61(2):347-353, 1997. *equal contributions

Graham J, Chapman NH, Goddard KAB, Goode EL, Wijsman EM, Jarvik GP. Segregation and linkage analysis of a quantitative versus a qualitative trait in large pedigrees. Genetic

Epidemiology 14(6):999-1004, 1997.
Wijsman E, Brunzell J, Jarvik G, Guo S, Yang M, Austin M, Motulsky A, and Deeb S. Evidence against linkage of familial combined hyperlipidemia to the apolipoprotein AI-CIIIAIV gene complex. Arteriosclerosis and Thrombosis 18(2):215-226, 1998.
Breitner JCS, Jarvik GP, Saunders AM, Welsh KA, Plassman BL. Risk of Alzheimer's disease with the ε4 allele for Apolipoprotein E in a population-based study of men aged 62-73. Alzheimer's Disease and Associated Disorders 12(1):40-44, 1998.
Carmelli D, Swan GE, Reed T, Miller, B, Wolf PA, Jarvik GP, and Schellenberg GD. Mid-life Cardiovascular Risk Factors, Apolipoprotein E ε4, and Cognitive Decline in Elderly Male Twins. Neurology 50(6):1580-5, 1998.
Hokanson JE, Brunzell JD, Jarvik GP, Wijsman EM, Austin MA. Linkage of Low-Density Lipoprotein Size to the Lipoprotein Lipase Gene in Heterozygous Lipoprotein Lipase Deficiency. Am J Hum Genet 64:608-6 18, 1999.
Goddard KAB, Goode EL, Schnorenberg LM, and Jarvik GP. The impact of family structure on linkage testing using sib pair methods. Genet Epidemiol 17(Suppl 1):S575-579, 1999.
Gibbs M*, Stanford JL*, McIndoe RA*, Jarvik GP*, Kolb S, Goode EL, Chakrabarti L, Schuster EF, Buckley VA, Miller EL, Brandzel S, Li S, Hood L, Ostrander EA. Evidence for a Rare Prostate Cancer Susceptibility Locus at Chromosome 1p36. Am J Hum Genet 64(3):776-787, 1999. *equal contributions; See citation: Science News 154:316, 1998.
Jarvik GP, Stanford JL, Goode E, McIndoe R, Kolb S, Gibbs M, Hood L, Ostrander EA. Confirmation of prostate cancer susceptibility genes using high-risk families. In ""Innovative Study Designs and Analytic Approaches to the Genetic Epidemiology of Cancer. Monogr Natl Cancer Institute, 26:81-88, 1999.
Gibbs M*, Chakrabarti L, Stanford JL*, Goode EL*, Kolb S, Schuster EF, Buckley VA, Shook M, Hood L, Jarvik GP, Ostrander EA. Analysis of chromosome 1 q42.2-43 in1 52 families with a high risk of prostate cancer. Am J Hum Genet, 64(4): 1087-1095, 1999. *equal contributions
Goode EL, Stanford JL, Chakrabarti L, Gibbs M, Kolb S, McIndoe RA, Buckley VA, Schuster EF, Neal CL, Miller EL, Brandzel S, Hood L., Ostrander EA, Jarvik GP. Linkage analysis of 150 high risk prostate cancer families at 1 q24-25. Genetic Epidemiology 18:251-275, 2000.
Furlong CE, Li WF, Brophy VH, Jarvik GP, Richter RJ, Shih DM, Lusis AJ, Costa LG. The *PON1* Gene and Detoxification. NeuroToxicology 21 (4):58 1-588, 2000.
Ko CW, Beresford SAA, Alderman B, Jarvik GP, Schulte SJ, Calhoun B, Tsuchida AM, Koepsell TD, Lee SP. Apolipoprotein E and the risk of gallbladder disease in pregnancy. Hepatology, 31:18-23, 2000.
Brophy VH, Jarvik GP, Richter RJ, Rozek LS, Schellenberg GD, Furlong CE. Analysis of paraoxonase (PON1) L55M status requires both genotype and phenotype. Pharmacogenetics, 10(5):453-60, 2000.
International Consortium for Prostate Cancer Genetics. Combined analysis of hereditary prostate cancer linkage to 1q24-25: Results from 772 families from the International Consortium for Prostate Cancer Genetics. Am J Hum Genet 66(3):945-57, 2000.
Drachman JG, Jarvik GP, Mehaffey MG. Autosomal dominant thrombocytopenia: Incomplete megakaryocyte differentiation and linkage to human chromosome 10. Blood 96(1): 118-125, 2000.

Jarvik GP, Rozek LS, Brophy VH, Hatsukami TS, Richter RJ, Schellenberg GD, Furlong CE. Paraoxonase phenotype is a better predictor of vascular disease than *PON1192* or *PON155* genotype. Arterioscler Thromb Vasc Biol 20(1 1):2441-7, 2000.

Gibbs M, Stanford JL, Jarvik GP, Janer M, Badzioch M, Peters MA, Goode EL, Kolb S, Chakrabarti L, Shook M, Basom R, Ostrander EA, and Hood L. A Genomic Scan of Prostate Cancer Families Identifies Multiple Regions of Interest. Am J Hum Genet 67(1): 100-109, 2000.

Peters M*, Jarvik GP*, Janer M, Chakrabarti L, Kolb S, Goode EL, Gibbs M, DuBois CC, Shuster EF, Hood L, Ostrander EA, Stanford JL. Genetic Linkage Analysis of Prostate Cancer Families to Xq27-28. Hum Hered, 51:107-113, 2001. *equal contributions.

Brophy VH, Clendenning JB, Jarvik GP, Furlong CE. Polymorphisms in the human paraoxonase (PON1) promoter. Pharmacogenetics 11:77-84, 2001.

Brophy VH, Jampsa R, Clendenning JB, McKinstry L, Jarvik GP, Furlong CE. Promoter polymorphisms effects on paraoxonase (PON1) expression. Am J Hum Genet 68:1428-1436, 2001.

Goode EL, Stanford JL, Peters MA, Janer M, Gibbs M, Kolb S, Badzioch MD, Hood L, Ostrander EO, Jarvik GP. Clinical characteristics of prostate cancer in an analysis of linkage to four putative susceptibility loci. Clinical Cancer Research 7(9):2739-49, 2001.

Peters M, Janer M, Kolb S, Jarvik GP, Ostrander EA, Stanford JL. Germline mutations in the p73 gene do not predispose to familial prostate cancer. The Prostate 48(4):292-6, 2001.

Jarvik GP, Tsai NT, McKinstry LA, Wani R, Brophy VH, Richter RJ, Schellenberg GD, Heagerty PJ, Hatsukami TS, Furlong CE. Vitamin C and E intake is associated with increased PON1 activity. *Arterioscler Thromb Vasc Biol* 22:1329-1333, 2002.

ABSTRACT

Gail P. Jarvik was raised in Mount Prospect, a suburb of Chicago, Illinois, one of six siblings (with an age-span of seventeen years between the oldest and youngest). Her mother was a housewife who received a college degree in her fifties and her father transitioned from being a television repair man to becoming the youngest fire chief in Illinois. She had an early interest in nature, reading, and math, and had several influential teachers. She matriculated at the University of Iowa, majoring in zoology. An interest in science and medicine led Jarvik to apply for admission to various medical and graduate programs, including the University of Iowa's Medical Scientist Training program, to which she was accepted.

She began her studies for her medical doctorate at the University of Iowa before James Hanson, the head of pediatric genetics at Iowa, gave her the opportunity to pursue her PhD at the University of Michigan. In the lab of Charles F. Sing at Michigan, Jarvik began to work on fetal hydantoin syndrome but then switched topics before completing her degree. Upon finishing her medical education at Iowa she moved on to train in internal medicine at the University of Pennsylvania where she collaborated with Terri Beaty from Johns Hopkins University, on hyperlipidemia. After finishing her training she began a medical genetics fellowship on the genetics of prostate cancer at the University of Washington, Seattle, under Ellen M. Wijsman, and then went on to accept a position at the University of Washington Medical Center.

Throughout the interview Jarvik spends much time talking about her current work, her life outside of the lab, her perspectives on science and its practice in contemporary culture. She discusses her opinions on the public awareness of genetic research, ethical questions in science, the advantages and disadvantages of competition in science, her collaborative research projects, and the importance of being familiar with the history of biomedical science in her research. In addition she reflects on the ways in which the Pew Scholars Program in Biomedical Sciences has affected her work and on the methods that should be used to improve the quality of science in her field.

UCLA INTERVIEW HISTORY

INTERVIEWER:

William Van Benschoten, Interviewer, UCLA Oral History Program. B.A., History, University of California, Riverside; M.A., History, University of California, Riverside; C. Phil., History, UCLA

TIME AND SETTING OF INTERVIEW:

Place: University of Washington, Seattle, Washington

Dates, length of sessions: May 22, 2002; May 23, 2002; and May 24, 2002.

Total number of recorded hours:

Persons present during interview: Jarvik and Van Benschoten.

TABLE OF CONTENTS

INDEX